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| 10/022,826      | 12/20/2001  | Sung-hee Hwang       | 1293.1215           | 1431             |

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EXAMINER

TORRES, JOSEPH D

ART UNIT PAPER NUMBER

2133

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/022,826

Applicant(s)

HWANG ET AL.

Examiner

Joseph D. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5-11,13-19,21-24,26-29 and 32-47 is/are pending in the application.
- 4a) Of the above claim(s) 9-11,13-19,21-24,26-29 and 42-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-8 and 32-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group 1 (claims 1-3, 5-8 and 32-41) in the reply filed on 04/12/2005 is acknowledged. The traversal is on the ground(s) that 1. "There have been no references cited to show any necessity for requiring restriction" 2. "Additionally, both Groups I and 11 are within the Election filed by Applicants on August 6, 2004. It is unclear why an additional election is necessary to a previously identified group" and 3. "The Examiner has not set forth why there would be a serious burden if restriction is required". This is not found persuasive because as per 1, searching references to prove there was a need for restriction present an undue burden on the Examiner. As per 2, the Applicant has amended claim 1 removing "alternately and equally" and replacing it with "alternately selected such that progression through the partitions of each ECC block occurs diagonally" and the language "alternately and equally" remains in claim 9, which needs to be searched separately (Note: even the Applicant argues, in the Applicant's amendment filed 02/16/2005 that the feature of ~~"alternately and equally" is not present in the Examiner's current Prior Arts, which, if so,~~ means that that "alternately and equally" must be searched separately since the Examiner is certain that the current Prior Arts are adequate for rejecting claim 1). The requirement is still deemed proper and is therefore made FINAL.

Claims 9-11, 13-19, 21-24, 26-29 and 42-47 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention; there being no

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allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 04/12/2005.

This application contains claims 9-11, 13-19, 21-24, 26-29 and 42-47 drawn to an invention nonelected with traverse. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1:144) See MPEP § 821.01.

### ***Specification***

2. The specification is objected to because of the following informalities: Claim 1 recites, "alternately selected such that progression through the partitions of each ECC block occurs diagonally". Nowhere in the specification does the Applicant teach "alternately selected such that progression through the partitions of each ECC block occurs diagonally" nor does the Applicant even use the term "diagonally" anywhere in the Applicant's specification. Claim 1 recites, "interleaving the data from the partitions, comprising alternately selecting the partitions of each of the ECC blocks along diagonal paths". Nowhere in the specification does the Applicant teach "interleaving the data from the partitions, comprising alternately selecting the partitions of each of the ECC blocks along diagonal paths" nor does the Applicant even use the term "diagonal paths" anywhere in the Applicant's specification. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-3, 5-8 and 32-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains new subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites, "alternately selected such that progression through the partitions of each ECC block occurs diagonally". Nowhere in the specification does the Applicant teach "alternately selected such that progression through the partitions of each ECC block occurs diagonally" nor does the Applicant even use the term "diagonally" anywhere in the Applicant's specification. Claim 1 recites, "interleaving the data from the partitions, comprising alternately selecting the partitions of each of the ECC blocks along diagonal paths". Nowhere in the specification does the Applicant teach "interleaving the data from the partitions, comprising alternately selecting the partitions of each of the ECC blocks along diagonal paths" nor does the Applicant even use the term "diagonal paths" anywhere in the Applicant's specification.

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### ***Response to Arguments***

4. Applicant's arguments filed 02/16/2005 have been fully considered but they are not persuasive.

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The Applicant contends, "Noda fails to teach or suggest dividing each ECC block in row and column directions and interleaving the subdivided partitions in a diagonal manner".

The Examiner disagrees and asserts that Noda teaches dividing each of a plurality of error correction code (ECC) blocks corresponding to the data into a plurality of partitions which are formed by dividing each ECC block in row and column directions (Figure 5 in Noda teaches that ECC blocks whereby each ECC block is comprised of 208 rows and 182 columns of data and parity, the last 10 columns of the ECC block and the bottom 16 rows of the ECC block being parity; Figure 6 in Noda teaches that row parity is redistributed in the ECC block to form 16 partitions, each partition comprising 13 rows and 182 columns of data; hence Noda teaches dividing an ECC block corresponding to the data in the first 192 rows and the first 172 columns of Figure 5 into the 16 partitions of Figure 6 called sectors which are formed by dividing the ECC block into 208 row and 182 column); and interleaving the data from the plurality of the partitions so that partitions from each of the ECC blocks are alternately selected such that progression through the partitions of each ECC block occurs diagonally to generate a first recording block (Figure 7 divides a means for interleaving the data from the plurality of the sector partitions so that sector partitions from each of the ECC blocks are alternately selected by delaying different channels starting from the top channel by 4 delay units such that progression through the sector partitions of each ECC block occurs diagonally to generate a first recording block; Note: the channel multiplexer provides a means for alternately selecting adjacent channels in descending order with an offset of exactly 4 delay units, which is substantially a means for progressing through the channel data in a

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diagonal arrangement as in Figure 8); modulating the recording block (see Modulation Section 4 in Figure 3 of Noda); and recording the modulated recording block on a medium (see Figure 3).

All amendments and arguments by the applicant have been considered. It is the examiner's conclusion that the claims, as amended, are not patentably distinct or non-obvious over the prior art of record in view of the reference, Noda; Chosaku (US 6216245 B1) as applied in the Non-Final Action filed 11/16/2004. Therefore, the rejection is maintained.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 1-3, 5-8 and 32-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Noda; Chosaku (US 6216245 B1).

See the Non-Final Action filed 11/16/2004 for detailed action of prior rejections.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**JOSEPH TORRES  
PRIMARY EXAMINER**

Joseph D. Torres, PhD  
Primary Examiner  
Art Unit 2133

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